

OPEN WEDGE SOCKETS FORMER DIN 15315

FIELD OF APPLICATION

Open wedge sockets acc. to DIN 15315 can be used with wire ropes only, which are calculated acc. to the prescription for elevator units (Aufzugverordnung - AufV) and the technical regulations (TRA). They are not applicable for wire ropes with a nominal tensile strength of the wires of more than 1770 N/mm². The capacity of a rope connection depends decisively on the corresponding rope. It can be determined only with the rope inserted in practice.

ASSEMBLY

Bodies and wedges for open wedge sockets must be checked before assembly with regard to damage which may affect the operability.

In delivery condition a cotter pin stops the wedge from falling out of the body, this must be removed before putting the socket into use.

It is important to use bodies and wedges of compatible sizes with the corresponding strength of each wire rope. Otherwise the rope may be pulled through the open wedge socket or failure of the wire rope or the open wedge socket may occur. Alterations to the body or wedge are prohibited.

Bodies and wedges from other manufacturers cannot be combined with our open wedge sockets even for identical rope diameters. One has to control during assembly, whether the wedge (together with the rope) fits to the body. When the wedge is too large or when the angle is wrong it cannot be pulled deep enough in the body to create a safe connection and may cause a failure.

To avoid the danger of mix-up in bodies and wedges of different sizes or different origin, we recommend to assemble body, bolt and wedge during stocking and transport of the open wedge socket.

When the open wedge socket is reassembled as an end fitting to a rope, the rope must be shortened. The flattening and/or damage of the rope caused by the former fixing must not occur on the load-bearing rope or in the clamping range on both sides of the body of the socket and the wedge.

The dead end of rope leaving the socket must be long enough for locking acc. to picture 1. (see overleaf)

To avoid deformation of non-rotating ropes one should tie them (e. g. with adhesive tape) around the wedge while bending. After assembly the tape should be removed as far as possible to enable testing of the rope. It is important that the wedge and rope are assembled correctly in the body prior to use of the open wedge socket. In any other case, the rope might be pulled through the socket or the wedge might spring off the body, especially when using a new rope.

During assembly both ends of the rope must be pulled at the same time in order to pull the wedge into the body. If necessary use a piece of wood to tap the wedge down into the body. Afterwards a load of minimum 10 % of the minimum breaking load of the rope should be raised and held under supervision for setting the wedge and rope in the case.

The dead end of the rope must be locked acc. to picture 1 (see overleaf). The purpose of the locking is to avoid slipping of the rope. For some purposes other methods of locking the dead end may be appropriate. Check whether the method is legal for the special purpose.



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The wire rope clip should avoid the rope slipping out of the open wedge socket before the wedge clamps. The body of the wire rope clip should not be set on the fused and tapered part of the rope. The distance A (see picture 1) must be kept.

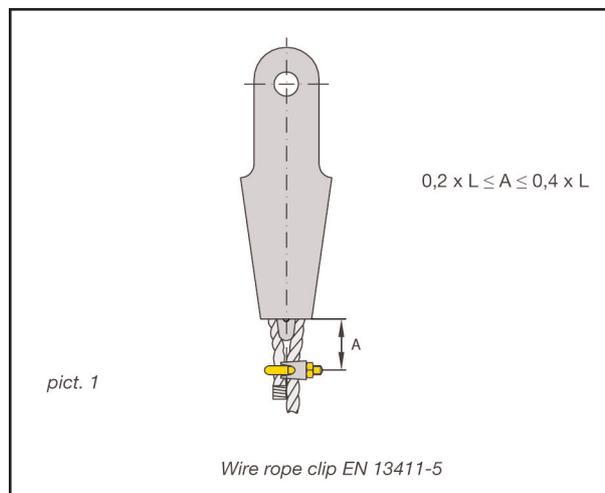
On discharging the rope completely the wedge may be detached. If so, one has to act very carefully. Before applying any load check that the bolt is properly secured. Open wedge sockets must not be used in areas which are at risk of frost.

TESTING

During inspection of the rope and the open wedge sockets, special attention should be given to the following:

- damage of the rope, e.g. broken wires or deformation of the rope where it leaves the body
- state of the socket body e.g. cracks when the wedge sticks out a lot. The mounting links of the body should be inspected for possible deformation, cracks and other defects.
- safe and close fitting of the wedge
- state of the bolt and the existence of the cotter pin in the correct position and bent to ensure it cannot fall out.

The inner walls of the body, the wedge as well as the part of rope inside the socket must be inspected during each disassembly of the socket. Defective parts must be replaced. When open wedge sockets are exposed to high temperatures (e. g. fire) they must be taken out of operation and be replaced by new ones.



The clip should be assembled in a distance of 20 % - 40 % of the length of the wedge from the case of the open wedge socket. If the distance is too small deformation of the rope may occur - on the other hand - the wedge may fall out of the case if the distance is too large and the rope releases tension.